

**THIS OPINION WAS NOT WRITTEN FOR PUBLICATION**

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** MICHAEL V. CORDOBA  
and KIM C. HARDEE

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Appeal No. 1996-3229  
Application 08/271,477<sup>1</sup>

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ON BRIEF

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Before KRASS, JERRY SMITH, and HECKER, **Administrative Patent Judges.**

HECKER, **Administrative Patent Judge.**

**DECISION ON APPEAL**

This is a decision on appeal from the final  
rejection of claims 25, 30, 32 and 35 through 38. Claims 1

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<sup>1</sup> Application for patent filed July 7, 1994. According to applicants, this case is a division of Application 07/964,761, filed October 22, 1992, now U.S. Patent No. 5,345,195, issued September 6, 1994.

through 24 and 26 through 29<sup>2</sup> have been canceled. Claims 31, 33, 34<sup>3</sup>, 39 and 40 are objected to and indicated as containing allowable subject matter. Claim 41 is indicated as allowable. Proposed claims 42 and 43 were denied entry.

The invention relates to a current limiting circuit and a latch. One of the objectives of the current limiting circuit is to reduce "through current" or "crowbar current" while the latch limits current loss and prevents the output from floating. In particular, referring to Figure 2, 400 is the latch circuit, 300 is the current limiting circuit which contains a first inverting circuit 302 which in turn contains first and second inverters 309 and 315 respectively.

The only rejected independent claim 25 is reproduced as follows:

25. A current limiting circuit comprising:

a first inverting circuit having an input for receiving an input signal, a first output for outputting a first output signal and an second output for outputting a

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<sup>2</sup> Claim 29 was canceled by amendment E, Paper No. 14, and its limitations inserted into claim 25. Thus, the final rejection of claim 29, Gabara in view of Bonneau became applicable to claim 25.

<sup>3</sup> The rejection of claims 33 and 34 was withdrawn in the Examiner's Answer.

second output signal, said second output being distinct from said first output,

wherein said first inverting circuit includes a first inverter and a second inverter, said first inverter being coupled to receive said input signal and output said first output signal and having a first p channel transistor, a first n channel transistor and a second n channel transistor coupled between a first potential and a second potential, wherein said first potential is also applied to a gate of said second n channel transistor, and

said second inverter being coupled to receive said input signal and output said second output signal and having a third n channel transistor, a second p channel transistor and a third p channel transistor coupled between a first potential and a second potential, wherein the second potential is applied to a gate of said third p channel transistor;

a second inverting circuit coupled to said first inverting circuit, said second inverting circuit having a first input for receiving said first output signal, a second input for receiving said second output signal wherein said second input is distinct from said first input and a third output for outputting a third output signal; and

a latch circuit coupled to the output of said second inverting circuit, said latch circuit comprising a third inverter and a fourth inverter, each inverter having an input and an output.

The Examiner relies on the following references:

Bonneau et al.	(Bonneau)	4,988,893	Jan.
29, 1991			
Gabara	5,311,084	May 10, 1994	
		(filed Jun. 23,	
1992)			

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Claims 25, 30, 32 and 35 through 38 stand rejected  
under 35 U.S.C. § 103 as being unpatentable over Gabara in  
view of Bonneau.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the brief, supplemental reply brief (Paper No. 24)<sup>4</sup> and answer for the respective details thereof.

**OPINION**

After a careful review of the evidence before us, we agree with the Appellants and will not sustain the rejection of claims 25, 30, 32 and 35 through 38 under 35 U.S.C. § 103.

The Examiner has failed to set forth a ***prima facie*** case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions found in the prior art, or by a reasonable inference to the artisan contained in such teachings or suggestions. ***In re Sernaker***, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." ***Para-Ordnance Mfg. v. SGS Importers Int'l.***, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239

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<sup>4</sup> Appellants' Reply Brief, Paper No. 17, was not entered.

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(Fed. Cir. 1995), **cert. denied**, 117 S.Ct. 80 (1996)(**citing W. L. Gore & Assocs. v. Garlock, Inc.**, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), **cert. denied**, 469 U.S. 851 (1984)).

Appellants argue:

As recited in Claim 25, the present invention requires only two power supplies, i.e. a first potential (illustratively VCC) and a second potential (illustratively VSS). In contrast, *Gabara* uses and requires four different power supplies, VCN, VCP, VSS and VDD, to create its circuit. (Brief-page 18.)

The Examiner responds:

Under [the] broadest reasonable interpretation, the first potential and the second potential is seen to read as VCN and VCP in the *Gabara*[] reference. It is clear from col. 2 that the voltages VCN and VCP of *Gabara*'s reference are of [a] level appropriate to activate the transistors 104 & 105 respectively. It would have been clearly understood by one skilled in the art that these levels VCN and VCP would each be in a range including [the] "supply voltage" and "ground", respectively. It further would have been clear to one skilled in the art that using [the] "supply voltage" and "ground" would reduce the number of circuit elements, thus, result in lower [] manufacturing cost. In addition, it is notoriously well-known that conventional voltage generator[s], which would be used to generate VCN and VCP, provide a divided voltage between the supply voltage and ground. Thus, clearly the gates of 104 and 105 would be connected through the respective voltage

generators to the "supply voltage" and "ground".  
(Answer-pages 5 and 6.)

We are not persuaded by any of the Examiner's statements, *supra*. As indicated in Gabara's col. 2, control voltages VCP and VCN are different from the supply voltage (VDD for Gabara and VCC for Appellants), and different from the ground voltage (VSS for Gabara and  $\bar{V}$  for Appellants). VCP and VCN are generated by power supplies which themselves are powered by the "supply voltage" and "ground" voltage, and therefore cannot be equal thereto. This can be seen by reference to the typical power supplies noted by Gabara at column 2, lines 23-26, i.e., Figures 2 through 5 of U.S. Pat. No. 4,823,029. Therefore, although VCP and VCN are adjustable, the "supply voltage" and "ground" voltage would exceed the range of adjustability.

Although replacing VCP and VCN with the "supply voltage" and "ground" might lower manufacturing costs as proposed by the Examiner, there is no teaching to do so other than Appellants' disclosure, and doing so would defeat the purpose of Gabara to compensate for process, voltage and temperature variations.

Lastly, the Examiner's contention that the gates of 104 and 105 [of Gabara] would be connected **through** the respective voltage generators [of VCP and VCN] to the "supply voltage" and "ground" would not meet the claim 25 requirement of the first and second potentials being **applied to** the respective gates.

The Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." **In re Fritch**, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), **citing In re Gordon**, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." **Para-Ordnance Mfg. v. SGS Importers, Int'l**, 73 F.3d at 1087, 37 USPQ2d at 1239, **citing W. L. Gore & Assocs. v. Garlock, Inc.**, 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13 (Fed. Cir. 1983).

Therefore, we will not sustain the rejection of claim 25 since Gabara does not teach, suggest or make obvious



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the recited limitations of the potentials applied to the gates of the transistors. For the same reason, we will not sustain the rejection of claims 30, 32 and 35 through 38 since they depend from claim 25 and thereby contain the same unmet limitation.

We have not sustained the rejection of claims 25, 30, 32 and 35 through 38 under 35 U.S.C. § 103. Accordingly, the Examiner's decision is reversed.

***REVERSED***

	ERROL A. KRASS	)	
	Administrative Patent Judge	)	
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		)	
	JERRY SMITH	)	BOARD OF
PATENT	Administrative Patent Judge	)	APPEALS AND
		)	INTERFERENCES
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STUART N. HECKER )  
Administrative Patent Judge )

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